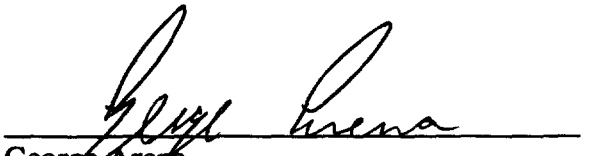
Before the
Federal Communications Commission
Washington, D.C. 20554

In the Matter of	)	
	)	
Amendment of the Commission's Rules	)	WT Docket No. 97-81
Regarding Multiple Address Systems	)	

COMMENTS OF MICROWAVE DATA SYSTEMS

Respectfully submitted,

MICROWAVE DATA SYSTEMS



George Arena
President

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TABLE OF CONTENTS

EXECUTIVE SUMMARY

Microwave Data Systems is a leading United States manufacturer of Multiple Address System radios. Based on our sales experience, we feel strongly that there is considerable unmet demand for additional MAS channels for private use by utilities and energy companies to meet their supervisory, control, and data acquisition (SCADA) requirements.

We support the Commission's determination to dismiss the 50,000 applications filed in 1992 for MAS channels in the 932/941 MHz band. These applications were filed largely by speculators, not entrepreneurs. We strongly support the Commission's conclusion that the 928/952/956 MHz bands are private in character and should continue to be licensed under the existing regulations. The 928/959 MHz band should be licensed under these rules as well.

We oppose the Commission's proposal to limit the 932/941 MHz band to applications by telecommunications carriers. We seriously question the Commission's legal authority to select licensees by auctions, since the principal use of this band cannot be exclusively characterized as involving subscriber services.

We propose that the Commission apportion the 932/941 MHz band as follows: 25 channels for private users, 5 channels for the federal government and public safety, and 10 channels for a new sub-band for subscriber-based service. Only the 10 subscriber-based channels would be subject to new rules to be finalized for that sub-band. The private, federal government, and public safety channels would continue to be licensed under the existing regulatory regime. After 10 years, this structure can be reevaluated.

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COMMENTS OF MICROWAVE DATA SYSTEMS

Microwave Data Systems respectfully submits these Comments in response to the Notice of Proposed Rule Making in the above-captioned proceeding.

I. BACKGROUND

Microwave Data Systems (MDS) is a leading United States manufacturer of Multiple Address System (MAS) radios in the 928/952/956 and 928/959 MHz bands. We have been in this business since 1985 and have designed, manufactured, and supplied over 150,000 radios for Multiple Address Systems applications to various private and commercial customers for a wide variety of applications. We are also a supplier of MAS radios to U.S. Government customers, for systems in the 932/941 MHz band. Based on our leadership position in the MAS market, MDS strongly supports the Commission's view that the 928/952/956 MHz MAS bands should remain private in character and licensed on a site-by-site basis. Conversely, MDS strongly disagrees with the Commission's proposal to license the 932/941 MHz band on an Economic Area (EA) basis for subscriber-based services with auctions. America's infrastructure

industries need more, not less, MAS capacity on a site-by-site basis, as the Commission has already recognized.[1]

II. TREATMENT OF 932/941 AND 928/959 MHz BANDS

The Commission's assessment is that over 95% of the 50,000 applications received in 1992 for the 932/941 MHz band were likely for subscriber-based services. From this, the Commission infers that the use of MAS spectrum has changed, since it last considered the question in 1993, from private service to subscriber-based service. The Commission concludes that it has authority under Section 309(j) of the Communications Act to auction the spectrum in these bands.

MDS disagrees. MDS believes that the Commission needs to look beneath the surface to understand the misleading pretenses under which the 1992 applications were generated. Further, the Commission needs to understand what has happened both before and after that filing in the existing bands as well as the new 932/941 MHz band, to understand the entire situation and why the proposal to use the 928/959 and 932/941 MHz bands entirely for subscriber-based services is misdirected.

[1] See discussion of RM-6579 at 4 FCC Rcd 4979, where the Commission declined to allow use of 900 MHz SMR spectrum for private MAS use, on the ground that the 932/941 MHz band had recently been allocated for this purpose and would suffice.

Based on a large volume of customer contacts around the time of the 932/941 MHz filing window, we believe that the vast majority of those subscriber-based applications was generated by "application mills" under the pretense that the applicant, if successfully awarded a channel in the lottery, could resell that channel to a potential user for a great deal of money.

The "application mills" used the previous cellular lotteries as examples to show how people made money by reselling their licenses. Based on the large number of calls that MDS received from individuals around the filing period, MDS believes that no attempt was made on the part of the "application mills" to educate their customers on the bandwidth and monetary value differences between a single 12.5 kHz MAS channel with one master site location and a cellular license for a very large number of channels in a larger area with multiple base station sites.

When MDS explained the technical differences to these potential "subscriber-based providers," these people realized that their applications had considerably less monetary value than they were led to believe. Many of them expressed disappointment at the false promises of riches made to them by these so called "application mills." In other words, most of those applications were from spectrum speculators, not communications entrepreneurs. There is a difference.

We submit that a better indication of the insignificant demand for "subscriber-based" licenses lies in an analysis of applications for licenses that have been granted for the

928/952 and 928/959 MHz frequencies, which have remained available for applications over the last five years. A large number of applications for subscriber-based services on these existing frequencies were filed immediately after the 932/941 MHz filing was completed, mostly by speculators who had failed to file in the filing windows. There continue to be some filings for "subscriber-based" licenses in the existing frequency bands at the present time. However, WE KNOW OF NONE OF THESE LICENSEES THAT HAS EVER CONSTRUCTED A SYSTEM AND CONTINUED OPERATION SUCCESSFULLY.

Over our sales history, a small number of firms have tried to offer subscriber-based communications services, such as point-of-sale credit verification. To the best of our knowledge, virtually all of these firms were never profitable and have stopped operation. Given the reliable and extensive phone system in the United States, we believe that it is nearly impossible to offer this type of service on a competitive and profitable basis.

Additionally, significant changes in the wireless industry have occurred between 1992, when those 50,000 932/941 MHz MAS applications were filed, and now. Customers in search of subscriber-based service now have an ample number of alternatives available to them that were not available at the time the 932/941 MHz applications were filed. These services include PCS, cellular services including new Cellular Digital Packet Data capability, Ardis, RAM, and new two-way paging systems as well as improvements made to modem technology for sending data over existing telephone

networks. It is simply poor regulatory judgment to allocate still more spectrum for subscriber-based services, when there exists a crying need for more private system capacity.

It is even worse regulatory judgment to EXCLUDE private users from acquiring a license in the 932/941 MHz band and to presume that all applicants are telecommunications carriers. It defies the Commission's flexibility rhetoric to require that companies only use this spectrum to render subscriber-based services, when the reality is that MAS channels in most cities and energy fields are exhausted and more channels are desperately needed by utilities and energy companies.

The types of services that have been able to successfully operate in this band, other than private infrastructure industry users, are alarm companies for connection of remote locations to a central station and paging companies to connect their offices to paging transmitters. However, their percentage use of the existing bands hardly justifies the reservation of the entire new band for subscriber-based services.

MDS believes that the Commission needs to allocate this spectrum based not on the 50,000 applications which were an aberration, but on extrapolation of the existing pattern of licensing AND CONSTRUCTION of MAS systems. MDS feels that this is the more valid way to determine the nature of these bands. This approach overwhelmingly shows that significant use of these bands will be made by private

users, such as America's infrastructure industries, to meet their internal data and control requirements.

MDS seriously questions, therefore, the Commission's legal authority to select licensees in these bands by competitive bidding. In order to employ auctions, the Communications Act requires that the "principal use of the spectrum will involve or be reasonably likely to involve, the licensee receiving compensation from subscribers." The 50,000 applications, cited now by the Commission as its basis for determining that the spectrum involves subscriber-based service, *were already on file* in 1993 when the Commission concluded that this vital condition was **not** met. There is nothing in those applications now that was not there in 1993. The Commission's original conclusion, in our experience, remains valid and has been borne out by the licensing activity over the last five years.

In view of the above, MDS suggests apportioning the new 932/941 MHz band for a minimum of 25 channels for private users, operating under existing rules, 5 channels for the Federal Government and public safety as the Commission has proposed, and 10 channels as a new sub-band for subscriber-based applications under rules to be finalized for that sub-band. If, at the end of a ten-year period, availability exists in any of these three segments of the 932/941 MHz band in a specific area, then the Commission can revisit this apportionment. There is precedent for such a course in the MAS spectrum itself, where the power utilities were originally allowed sole access to certain new frequencies for a period of time before the band was opened to all applicants.

MDS further proposes that the 928/959 MHz band revert to licensing under the existing rules. This band is virtually used up in most major cities. The majority of NEW licensing and construction in 928/959 MHz is in less populated areas by private users that cannot get 928/952 MHz frequencies. They should be allowed to continue to utilize this band. Given the congestion in this band in metropolitan areas, the grandfathering that will likely occur, and the recent availability of alternative technologies for subscriber-based communications, this band is of little value for subscriber-based services. But it is important to private users as they build-out their systems.

III. TREATMENT OF 928/952/956 MHz BANDS

MDS agrees with the Commission's analysis that 70% of the 7,700 licenses granted in these bands are for public safety, business, and industrial use for internal communications needs. MDS further believes that an examination of recent filings will show an even larger percentage of private users. MDS additionally believes that more than 90% of the NEWLY LICENSED SYSTEMS THAT HAVE ACTUALLY BEEN CONSTRUCTED are from these private users.

Based on the above presented data, and the existing congestion in this band, MDS supports the Commission's position that existing users should be grandfathered and that all new licenses in the 928/952/956 MHz band should be for private users only. MDS believes that the Commission's analysis of projected private MAS spectrum needs is

understated, and that this band, as well as a minimum of 25 channels of the new 932/941 MHz band, would be most effectively used if reserved for private user needs based on existing rules.

By far the majority of the orders we have filled has been from private users for internal communications needs. With the utility industry being a large user of these frequencies for SCADA[2] systems and the coming deregulation of the electric utility industry, MDS believes that utilities will require even more MAS frequencies in the future. It would be irresponsible for one federal agency to be reducing the availability of MAS capacity at the very time that another federal agency (FERC) is mandating that utilities implement real-time data capability. It is MDS' experience that subscriber-based service providers have been unsuccessful in structuring services to support the data requirements of infrastructure industries.

IV. GEOGRAPHIC AREA LICENSING

MDS does not support the Commission's proposal to employ geographic area licensing in any of the MAS bands, especially in any existing bands. The Commission is basing its proposal on speculative subscriber-based filings versus the licensing trends in the existing bands. Private users typically file for licenses as requirements are defined.

[2]Supervisory Control and Data Acquisition.

They do not typically file based on speculation. The best way to ensure efficient use of this spectrum is to limit all filing to as small a requirement as possible, based on actual need, not on a large area based on speculation. In that way, this valuable MAS spectrum gets utilized to maximum effectiveness.

The Commission's proposal for geographic licensing and extended build-out of these systems invites rampant speculation. A situation is envisioned where an entity wins a geographic subscriber-based license, deploys a small portion of the spectrum, finds they cannot compete and gives up expanding the system. In the meantime, private users are deprived of their ability to build or expand their systems due to the fact that these frequencies are licensed to others. As is now occurring in the 900 MHz SMR territories, users with legitimate operational requirements will be forced to buy out the licensees of unconstructed or underconstructed systems at an exorbitant price.

MDS therefore proposes that all licensing in all existing and new MAS bands be done on a site-by-site basis. Further, MDS proposes that the Commission not allow users to file for more than one license in an overlapping area unless the initial license is constructed and operational or a bandwidth requirement is demonstrated.

MDS further proposes that rules concerning private, point-to-multipoint operation be restored to Part 101. Prior to the consolidation of the private and common carrier microwave regulations into Part 101, Part 94 contained regulations to govern private, point-to-multipoint operations. Somehow, after the creation of Part 101, the

operational rules for MAS systems appeared only in Part 22, which governs subscriber-based services. The rules for private MAS operations ought to be restored to Part 101.

V. ECONOMIC AREA LICENSING BOUNDARIES

MDS does not support the Commission's proposal for general licensing of MAS systems on an Economic Area basis.

The Commission's territory licensing proposal, coupled with the longer build-out period, will result in inefficient use of the spectrum as discussed above. Unlike the plethora of new bands that the Commission has recently created, the MAS bands have a history, structure, and documented demand for more capacity. The public interest lies in meeting this demand, not in redirecting it. EAs and auctions of EAs will keep the spectrum from those that require it most and value it most, namely, the private users.

VI. REGIONAL AND NATIONWIDE CHANNELS

MDS opposes setting aside channel pairs for regional or nationwide use. Depending on the potential licensee, having regional or nationwide channels will result in areas remaining unused and un-licensable to others. Many very rural areas of the country have no MAS channels available because of the heavy use by oil and gas producers and water utilities. If a licensee were granted nationwide coverage, it is doubtful that the licensee would construct in these remote areas, particularly for a subscriber-based system. Therefore, potential licensees could be blocked out from operating in these areas because of a nationwide license which is not being used in these remote areas.

The possibility of spectrum disaggregation or territory partitioning as a means for the energy company or utility to acquire spectrum only serves to unjustly enrich the nationwide licensee who has not constructed facilities in the area but whose license blocks others.

VII. LICENSING

MDS believes that the current rules requiring licensing of each master station site are working well and allow maximum utilization of spectrum. The Commission's proposal for EA licensing with appropriate interference criteria at the boundaries simply shifts the problem from pre-licensing interference avoidance to post-licensing interference remediation, which is always more difficult. The Commission should retain the current requirement that all master station sites be coordinated and licensed.

The current rules for co-channel master station separation are very effective in minimizing interference between systems yet allowing for reasonable re-use of the frequency. MDS believes that allowing EA licensing will result in less dense usage of the channel capacity. MDS believes that all unused spectrum in either existing bands or the new 932/941 MHz band should continue to revert back to the FCC to be available for re-coordination and licensing. The current FCC practice of publishing a notice when channels become available is very effective in maximizing use of the existing spectrum. MDS believes that this practice should be continued.

MDS supports the Commission's view that remote sites do not require a license. Remote sites typically use directional yagi antennas aligned towards their respective master site. Therefore, they typically do not interfere with the adjacent co-channel location.

VIII. FLEXIBILITY

MDS does not agree with the Commission's proposal to allow mobile operations on a primary basis. There are sufficient mobile services available in many other bands. The existing MAS spectrum is crowded and there are no other available frequencies for private MAS fixed location data systems. Given the significant increase in the need to send data in an MAS environment, coupled with the recent deregulation of the natural gas industry, and the coming of deregulation in the electric utility industry (two of the biggest private users of MAS systems in the U.S.), the need for private spectrum for fixed location MAS data systems is increasing. It is unwise to further burden this band with mobile uses when there are so many other mobile use bands now available.

IX. PARTITIONING AND DISAGGREGATION

The concept of spectrum disaggregation and territory partitioning is only viable in a territory-licensing regime. The Commission must bear in mind that this proceeding concerns a very narrow sliver of spectrum. Only 500 kHz of available spectrum is being allowed here. To treat it as though it has the market potential of PCS spectrum and to apply similar rules is not reasonable.

Site-by-site licensing is, of course, the ultimate in spectrum disaggregation and territory partitioning, since it represents the smallest and most efficient model for spectrum utilization. In light of our opposition to territory licensing articulated above, MDS does not support the Commission's proposal to allow partitioning and disaggregation. What needs to be avoided is speculative auctioning with the ability of the auction winners to try and partition and re-sell their gains, while allowing a long build-out period. This will result in inefficient use of the spectrum and denial of spectrum to those who need it.

X. MEXICAN AND CANADIAN BORDER AREAS

MDS believes that the current rules regarding these border areas are sufficient. MDS proposes that the Commission retain the current rules and sharing agreements that are in existence and that new licensees in the 932/941 MHz band comply with the requirements as they are written for the current band.

XI. CONSTRUCTION/COVERAGE REQUIREMENTS

MDS supports the existing requirement for a minimum of four remote units per master for both incumbent licensees and new licensees. MDS believes that this rule has proven effective in the past and continues to work well.

For both incumbent licensees and new users in all of the existing bands and the portion of the new 932/941 MHz band that we advocate for private users, MDS urges the

Commission to retain the existing rules regarding construction of channels, out-of-band emissions, and interference rights. Existing bands are heavily licensed and to allow different rules for new users would create chaos. For new private users in the new 932/941 MHz band, the existing rules would require users to justify more than a 12.5 kHz channel. This would maximize use of the spectrum. Continuing the current rules for out-of-band emissions would also maximize the use of spectrum, as it would allow maximum use of channels.

For any new subscriber-based services in the new 932/941 MHz channels, MDS feels that channel bandwidth justification and short construction periods will be the best mechanisms to ensuring maximum use of valuable spectrum. MDS does not feel that allowing blocks of channels to be assigned, coupled with long construction periods will provide incentives to maximize use of spectrum.

MDS does not support the proposal to extend geographic area licensing to the 928/952/956 MHz band. This band is very congested in most locations. Overlaying licensing territories on these bands can only serve the interests of those who would profit from an existing user's eventual need to expand.

MDS does not support the proposal to allow point-to-point services in any of these MAS bands. MDS believes that there is sufficient point-to-point spectrum available in existing microwave bands.

Past use of MAS spectrum has closely paralleled infrastructure density throughout the United States, not population density. For example, the most congested and most utilized areas for MAS systems are in western Kansas and the Farmington, New Mexico area. These areas have significant natural gas production and minimal population. Under the proposed rules, private users who require additional spectrum could not get new licenses because they are not providing subscriber-based services. Yet these are Economic Areas that are not likely to be developed because of the low population. By pursuing a course of attempted revenue maximization via auctions, the Commission is ignoring its obligation to assure that spectrum is used on the public interest, rather than the government's interest.

MDS supports the Commission's proposal to dismiss, without prejudice, the applications in the 932/941 MHz bands. Those applications were predominantly the result of speculation. As stated previously, MDS believes that the Commission needs to divide the new band in a proportion that allocates 25 channels for private systems, and 5 channels for public safety under the existing rules, and 10 channels in a new sub-band for subscriber-based services with rules to be determined. The Commission should then open a new filing window, with mutually exclusive applications determined by lottery. Stringent rules for qualification in each category will prevent speculation except, potentially, for the 10 channels of the spectrum that is for general business use. A 5-channel set-aside for public safety and Federal Government applications as proposed by the Commission should suffice to meet the needs of such agencies.

XII. CONCLUSION

MDS believes that private users have proven that they have efficiently and effectively used the existing MAS spectrum and have a need for, and have continually requested, additional MAS spectrum. The Commission's original intent for the 932/941 MHz band was to provide those existing users with additional spectrum. Unfortunately, with the lottery process that occurred for the 932/941 MHz frequencies, rampant speculation ensued, benefiting no one. MDS believes that the Commission is in error by trying to use that short burst of past, rampant speculation as justification for exclusively reserving the 932/941 MHz band for subscriber-based services, via the auction process. If in fact, demand for subscriber-based services in the MAS band existed, it would have materialized on the existing 928/952 and 928/959 MHz channels subsequent to the 1992 filings. Subscriber-based services have not developed in these bands despite the availability of frequencies. As such, MDS seriously questions the Commission's legal authority to select licensees by auctions, since there is overwhelming evidence that the principal use of this band is for private systems and not subscriber services.

MDS believes that if the Commission would simply "stay the course" on the new 932/941 MHz band, by following the existing rules, efficient use of the spectrum would be maximized. By apportioning the band as MDS has proposed and by following proper qualification rules for licensing in those different portions, speculation will be minimized and the spectrum will be properly available for those who require it.